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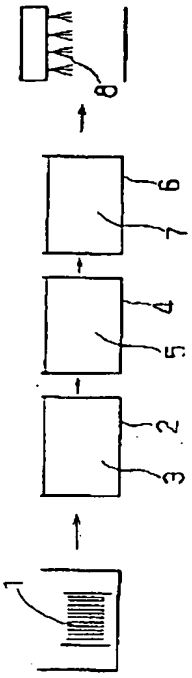
TITLE : METHOD OF INCREASING LIFETIME OF SI WAFER



ABSTRACT : PURPOSE: To obtain a high-quality Si wafer having a small amount of heavy metal impurities and particles by subjecting an Si wafer on which mirror-surface polishing is performed to washing, cleaning it with a mixed solution of aqueous ammonia and hydrogen peroxide water and further with a cleaning solution to which a chelating agent is added to the mixed solution, and washing it with a pure flowing water.

CONSTITUTION: An Si wafer after mirror finish is immersed in pure water 31 in a first bath 2 directly without drying the surface. Then, the Si wafer 1 is cleaned by an alkaline mixed solution 5 in a second both 4 of a constant temperature bath. The mixed solution 5 is a mixed solution of aqueous ammonia and hydrogen peroxide water, and the solution temperature is set arbitrarily at a temperature from 60 to 90°C. Next, cleaning is performed in a third bath 6. A cleaning solution 7 in the third bath 6 is formed by adding a chelating agent to the mixed solution 5. The cleaning solution 7 removes foreign matter adhered to the surface of the Si wafer 1 by etching it. Furthermore, heavy-metal ions of a heavy-metal impurity are formed into chelate compound and masked. Then, the cleaning solution 7 is sufficiently cleaned by pure flowing water 8.